

A new design framework for remote Indigenous housing

A SUSTAINABLE HOUSING SYSTEM FOR REMOTE INDIGENOUS COMMUNITIES REQUIRES SIX INTEGRATED ELEMENTS: (I) CULTURALLY RESPONSIVE DESIGN, (II) ECO-EFFICIENCY, (III) HEALTHY LIVING PRACTICES, (IV) HOUSING-RELATED TRAINING AND EMPLOYMENT, (V) LIFE-CYCLE COSTING OF PROJECTS, AND (VI) INNOVATION IN PROCUREMENT, OWNERSHIP AND CONSTRUCTION SYSTEMS.

KEY POINTS

- The shortage of affordable, culturally appropriate housing in remote Indigenous settlements results in levels of overcrowding six times that of non-Indigenous households and adversely affects the health, safety, education and employment opportunities of residents.
- A sustainable housing system goes beyond concern for the environmental integrity or durability of a house to also include the integrated and balanced consideration of community and resident consultation, cultural responsiveness in house design and settlement layout, resident and environmental health, job creation, training for employability, and life-cycle costing in construction and asset management.
- The design and construction of Indigenous housing should respond to the significance of housing construction as the major form of infrastructure investment in almost every remote Indigenous settlement in Australia. This in turn provides opportunities for much needed employment and economic development in these communities.
- The final design framework provides a series of general principles that integrate the need for community safety and health, economic development and eco-efficiency with specific recommendations for the design and modification of Indigenous housing that reflect the housing aspirations and needs of its householders.
- The design framework developed through this research builds upon the platform of the *National Framework for the Design, Construction and Maintenance of Indigenous Housing* and the *National Indigenous Housing Guide* to support the desired outcomes of *Building a Better Future* (BBF).

*This bulletin is based on research by **Professor John Fien** and **Dr Esther Charlesworth** (AHURI RMIT-NATSEM Research Centre), **Dr Gini Lee** and **David Morris** (AHURI Southern Research Centre); and **Associate Professor Doug Baker** and **Tammy Grice** (AHURI Queensland Research Centre). The research developed a design framework to assist policy makers, architects and building professionals respond to the need for affordable and sustainable housing options for Indigenous communities in remote regions of Australia.*

CONTEXT

Following the publication of numerous reports, including the Northern Territory's *Little Children are Sacred* report, the ongoing and significant needs of Indigenous people living in remote areas of Australia has attracted public and political attention. This includes a strong focus on the importance of providing appropriate and sustainable housing in these communities. In the context of the 2007 Federal Government commitment to respond to the backlog of housing need in many communities, there was also a call for cost savings to be achieved in housing delivery through the exploration of innovative design, construction technologies and processes.

In line with the directions laid out in *BBF*, it was identified that a new design framework was required to redress the extensive housing problems that undermine opportunities for Indigenous employment, good health, social stability and cultural sustainability in remote communities. This would require integration of the multidisciplinary mix of political, geographical, cultural, anthropological, historical, psychological, sociological, health, architectural, engineering, economic, landscaping and legal aspects of Indigenous housing.

The three case study communities in this study are located in Palm Island (Queensland), Mimili (South Australia) and Maningrida (Northern Territory). They were chosen because of their geographical, historical and cultural diversity, to ensure that a national design framework could be flexible enough to respond to the diversity of needs of Indigenous communities across the country.

RESEARCH METHOD

The originality and significance of this report resides in its policy-orientated synthesis of the often disparate contributions to remote Indigenous housing from the design, policy and public health literatures. This synthesis (see project Positioning Paper) was then grounded and tested through field research in the three case study communities to develop a flexible framework to assist policy makers and built-environment professionals to respond to calls for 'suitable low-cost housing options' for Indigenous housing in remote and very remote regions of Australia.

The study of existing housing in Mimili (SA), Maningrida (NT) and Palm Island (Qld) identified significant liveability problems related to a lack of concern for core cultural issues, inappropriate settlement planning, lack of functionality of internal and external spaces, and ineffective management of the housing process. Most significantly, the housing procurement and construction processes in all three communities failed to leave an 'economic footprint' in terms of enhanced livelihoods for residents.

Proposed guidelines for the design of remote Indigenous housing were developed from an analysis of possible solutions to these problems. Extensive interviews were then conducted with residents, local government councillors and housing officers in the three case study communities, with relevant staff in state/territory housing agencies, and with design and construction professionals experienced in building houses in remote Indigenous communities. Once analysis of this feedback

FIELDSITE EXAMPLE: MANINGRIDA, NORTHERN TERRITORY

'I want a block house like my cousin in Darwin... I want a house like a whitefella'.
(Resident interview, 20 September 2006)

Maningrida is located on the North Central Arnhem Land coast of the Arafura Sea, 500 km east of Darwin. There are more than 13 distinct Aboriginal languages still in everyday use in the region, recognised as a very culturally rich area. With an estimated population of 2,600 people in the dry season and 3,000 in the wet season, the available 160 houses in town have an average household size of 15 people during the dry, with some houses accommodating 20–30 people during the wet.

Many homes were found to be unsuitable for large extended families, lacking the basic facilities for external cooking and living spaces that reflect resident living patterns. Individual spaces within a typical three-bedroom home often become the primary living, cooking and 'retreat' space for a sub-unit of an extended family. There was an expressed preference for concrete block housing construction over prefabricated dwellings (which are cheaper and easier to build), despite a lack of available local skilled building labour and no fully qualified Indigenous tradesperson in the town.

was completed, a revised design framework was produced with sufficiently flexible guidelines to reflect the needs and aspirations of remote Indigenous communities in all parts of Australia.

KEY ASPECTS OF THE DESIGN FRAMEWORK

Despite the geographic, cultural and environmental diversity of the three case study communities, they shared many similar housing problems related to their remoteness, lack of local education, training and employment opportunities, and a legacy of under-funding for infrastructure and services. Most significantly, the settlement planning and house plans in the three communities generally fail to meet the most basic of responses to Australian Indigenous culture and lifestyle practices.

Common problems were chronic overcrowding (often exacerbated by seasonal and culturally related movements of family members), irregular maintenance, inefficient stock and tenancy management practices, inappropriate building design and construction for the local conditions, lack of water and sanitation facilities, and limited involvement of residents in planning and design processes.

The design framework places sustainability at the centre of the housing system, requiring the integration of social, economic and environmental analysis and design in the delivery of housing. This focus on sustainability provides an approach to housing in remote Indigenous communities, which is responsive to six key issues:

- *Cultural appropriateness* – ensuring that the design of Indigenous housing responds to core cultural imperatives of customary beliefs, Indigenous domiciliary preferences, and the diverse range of household types, sizes and aspirations.
- *Eco-efficiency* – so that the design of Indigenous housing is climatically responsive in the choice of building styles, siting and orientation, and involves the selection of environmentally appropriate building materials and construction systems and water, energy and waste management systems and design.
- *Healthy living practices* – requiring the design of Indigenous housing to follow the HealthHabitat principles in the National Indigenous Housing Guide that contribute to quality construction, health and safety and also address the links between health and overcrowding, the spread of infectious diseases, poor nutrition, domestic violence and school truancy.
- *Employment opportunities and economic development* – responding to the significance of housing construction as the major form of infrastructure investment in almost every remote Indigenous settlement in Australia and its resultant potential as a major creator of employment, skills training for workforce development, and the retention and circulation of money in local economies.
- *Life-cycle costing* – reflecting the principle of 'best value' rather than 'best price' and the subsequent use of whole-of-life costing for housing, which integrates the cost of construction with the planned and budgeted lifespan of a house and associated repair and maintenance schedules.
- *Innovation in procurement, ownership and construction systems* – supporting the economies of scale and time savings that may be achieved by innovative procurement systems (such as regional alliances), alternative approaches to home tenure (such as lease-purchase, 'sweat equity', etc), and the appropriate use of modular construction technologies (such as the off- and on-site fabrication of building components and on-site assembly and certification).

In order to deliver the most successful outcomes for individual households and for the broader community in which housing is being delivered, it was found that each of the six aspects of sustainability outlined above need to be considered at each of the following points of major decision-making in the housing system:

- Consultation (at key points throughout the process)
- Settlement design
- Design of the house, including internal and external spaces
- Integration of education and training plan into construction schedule
- Design development, construction and project management
- Post-occupancy management.

By adopting this culturally and environmentally responsive approach, the design framework complements the conceptual model developed in the report, *Alternative Housing Systems for Indigenous People in Remote Communities*, prepared by SGS Economics and Planning (and others) for the Department of Families, Community Services and Indigenous Affairs, released in September 2007.

POLICY IMPLICATIONS

The design framework has been designed to inform more effective practice in the planning, design, construction and management of remote Indigenous housing across

Australia. Successful outcomes require decision-makers to respond to the ways in which Indigenous people prefer to use their homes in line with their cultural and social aspirations and needs, as well as addressing many of the central housing problems that undermine opportunities for social stability, employment, training and economic development in remote Indigenous communities.

Critical to the cost-effective delivery of sustainable outcomes in housing is responsiveness to local conditions and needs: what may be considered 'sustainable' in one context may not be culturally relevant or environmentally appropriate in another. Therefore it is important that each of the six principles of sustainability is considered in light of local contexts and endorsed, modified or rejected based on local needs.

Guided by the six principles of sustainability, the design framework provides a flexible framework for both developing and evaluating plans for the design, construction and management of remote Indigenous housing.

To support the successful utilisation of the design framework, planning and delivery processes for remote Indigenous housing need to supplement the contributions of architects with the following professional inputs:

- *Property construction and project management* – to take advantage of the innovative modular and prefabricated construction technologies that can provide improved housing outcomes at reduced prices
- *Economics* – for the development of alternative financial models for the procurement and management of remote Indigenous housing based upon public-private partnerships, life-cycle costing, and a consideration of the value of the 'social savings' from non-shelter outcomes, such as health, education and family services, that can flow from improved housing
- *Community and regional development* – to identify opportunities and strategies for using investments in housing to leverage the human capital development and employment that can flow from capacity building in construction, property management and maintenance

- *Education and training* – necessary to maximise employment in housing-related projects and associated infrastructure activities.

FURTHER INFORMATION

Commonwealth, State and Territory Housing Ministers' Working Group on Indigenous Housing (1999) *National Framework for the Design, Construction and Maintenance of Indigenous Housing*, Department of Family and Community Services, Canberra.

Department of Family and Community Services (2003) *National Indigenous Housing Guide*, 2nd edition, Department of Family and Community Services, Canberra.

Housing Ministers Advisory Council (2001) *Building a Better Future: Indigenous Housing to 2010*, Australian Housing Ministers' Ten Year Statement of New Directions for Indigenous Housing. Online at http://www.housing/qld.gov.au/pdf/atsih_building_future.pdf (accessed 7 June 2006).

Wild, R. and Anderson, P. (2007) *Little Children are Sacred: Report of the Northern Territory Board of Inquiry into the Protection of Aboriginal Children from Sexual Abuse 2007*, Northern Territory Government, Darwin.

This bulletin is based on AHURI project 30354, *Towards a design framework for remote Indigenous housing*. Reports from this project can be found on the AHURI website: www.ahuri.edu.au

The following documents are available:

- Positioning Paper
- Final Report

Or contact the AHURI National Office on +61 3 9660 2300



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